

OPTIMAL INITIAL GAIN SELECTION FOR WIRELESS
RECEIVER

ABSTRACT OF THE DISCLOSURE

5 An OFDM wireless transceiver uses a digital automatic gain control (AGC) module. The digital AGC module is configured for setting a gain to an initial gain value for mapping a received wireless signal to a first power value for an input circuit having a prescribed input range. The initial gain value is set relative to the prescribed input range and a prescribed signal to noise ratio. If the digital AGC module determines that the first power value of the received wireless signal does not exceed the prescribed input range, the digital AGC module calculates an optimum gain for the received wireless signal relative to the initial gain value and the first power value; if the first power value exceeds the prescribed input range, the AGC module determines the optimum gain based on setting the gain to a minimum gain value.